[redacted] PROJECT PLAN

13 APRIL - 30 JUNE 1959

ENGINEERING REPORT 5414

13 APRIL 1959

[redacted]

PROJECT ENGINEER [redacted]

Roderic M. Scott

CHIEF ENGINEER Roderic M. Scott

[redacted]

DIRECTOR OF ENGINEERING [redacted]

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I. INTRODUCTION

A system with the capability described in Engineering Report 5394 is to be developed. Two alternate suggestions have already been made, and are treated slightly in the next section of this report.

The project plan for the period until 30 June 1959 is described in Section III. This program is an extension and elaboration of the program proposed in Engineering Report 5394.

The last section is the program outline. An activity and personnel loading schedule, and a personnel organization chart are presented.

II. COMPARISON OF THREE SYSTEMS

It has been suggested that either the B-System or a 36-inch focal length f/6 Schmidt system might perform better than the 17.5-inch focal length system described in Engineering Report 5394. A hasty analysis of the two alternate systems has been made on the same general basis as previously used in Engineering Report 5394 (see figure 1 and 2).

The results of this analysis have been converted into expected performance curves (see figure 3) and these are compared with the expected performance of the 17.5-inch system.[1] It still appears that better performance can be expected from the 17.5-inch system.

If the systems are compared on the basis of size, weight, and ground coverage, the 17.5-inch system appears to be the most favorable system in each respect; (in fact, the alternate systems possibly will not fit in the bay volume).

However, only a hasty analysis has been made, and both alternate systems are worthy of some additional consideration.

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1 - Eng. Report No. 5394, page 97

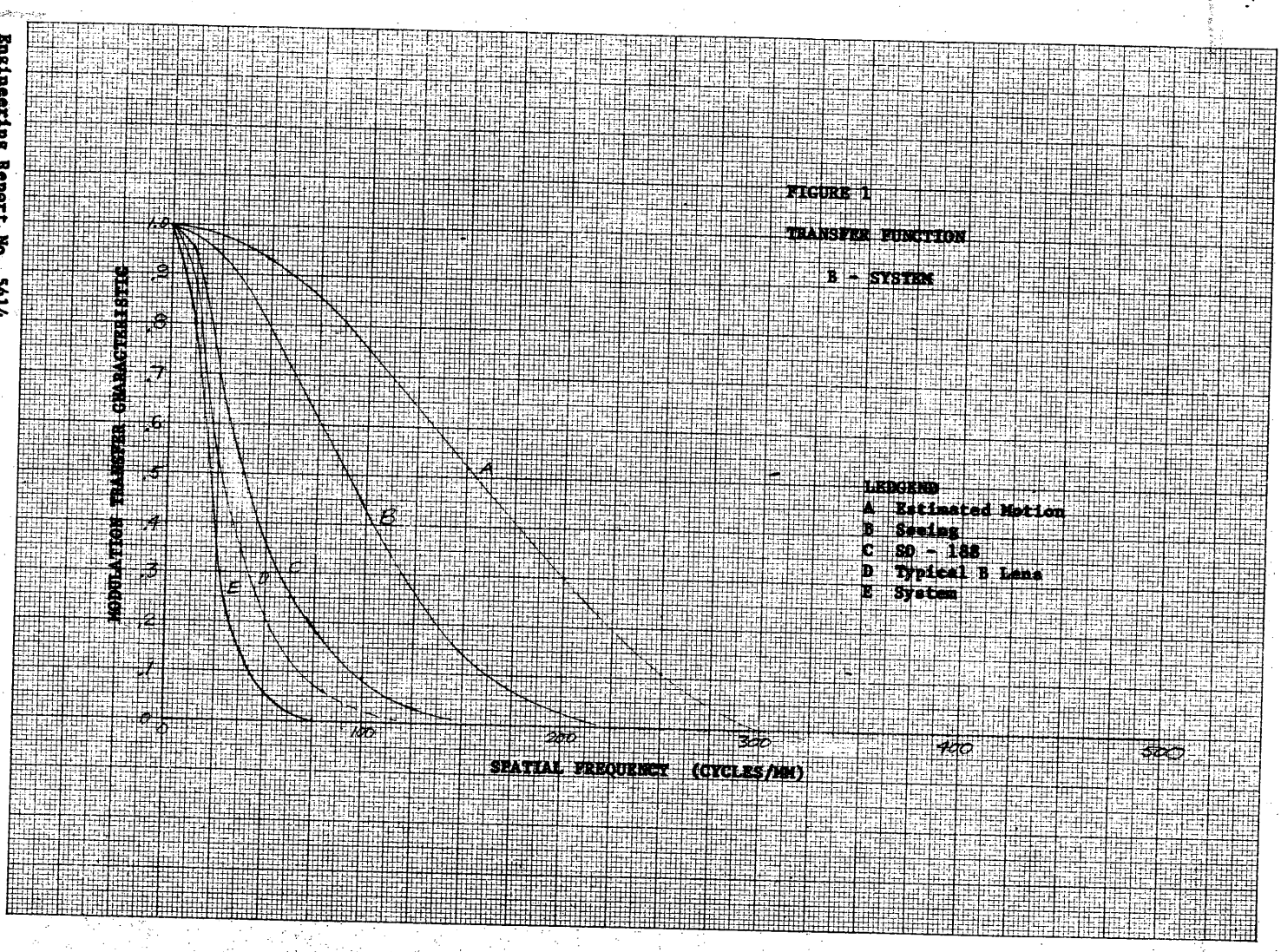


FIGURE 1

TRANSFER FUNCTION

B - SYSTEM

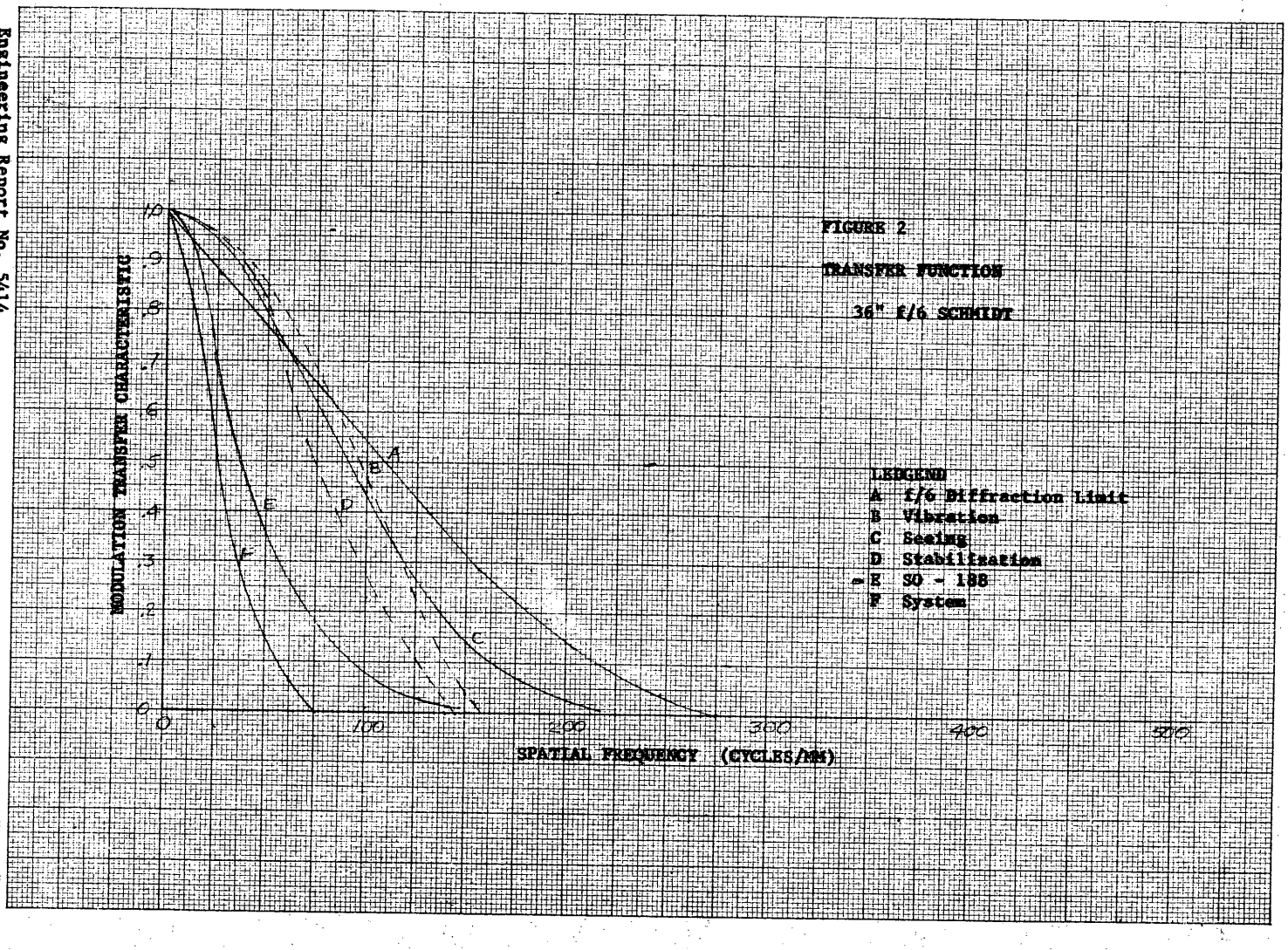


FIGURE 2

TRANSFER FUNCTION

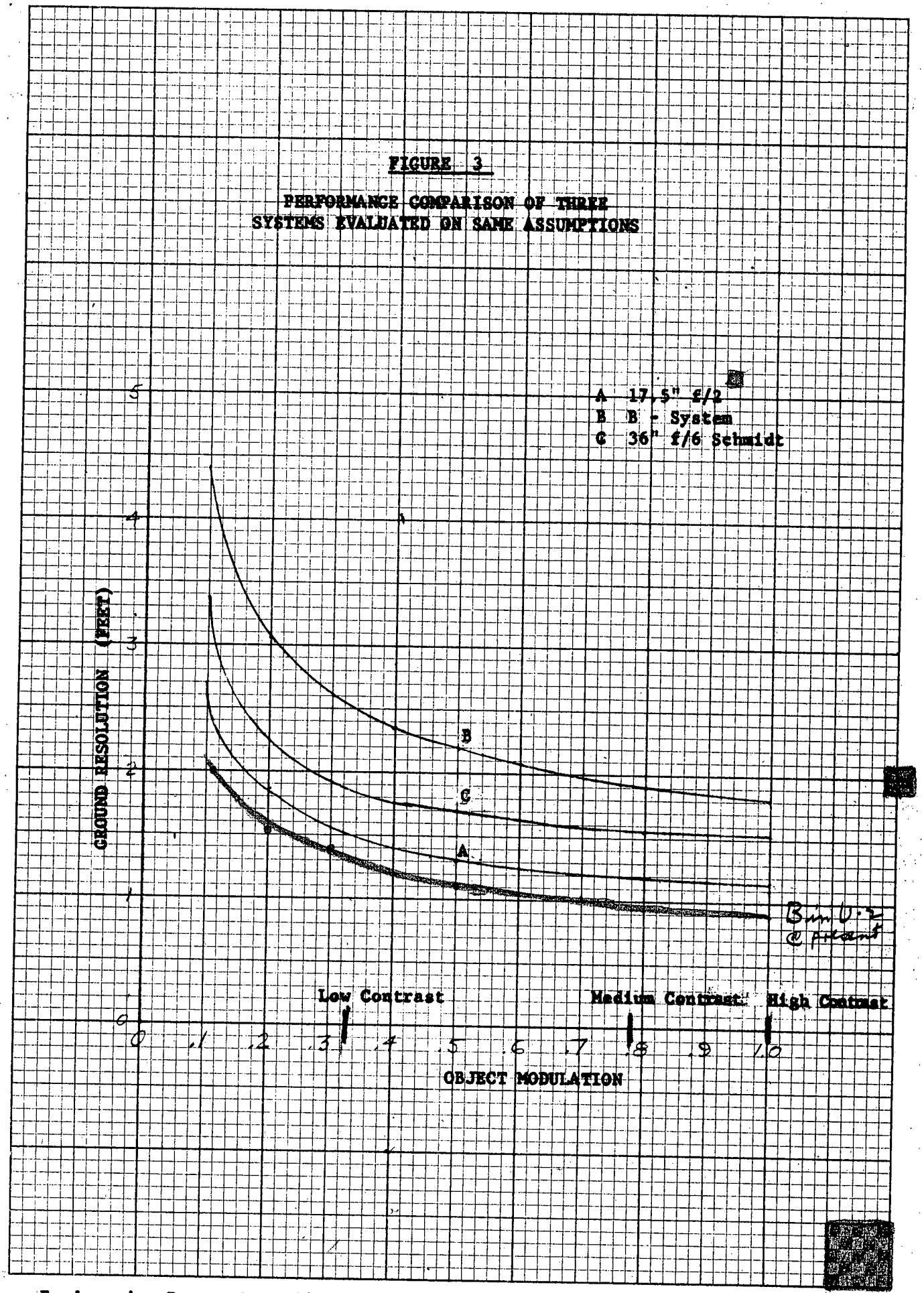
36" f/6 SCHMIDT

LEGEND

A f/6 Diffraction Limit
B Vibration
C Seeing
D Stabilization
E SO - 188
F System

FIGURE 3

PERFORMANCE COMPARISON OF THREE SYSTEMS EVALUATED ON SAME ASSUMPTIONS



III. PROJECT PLAN

DESIGN FOR MAXIMUM CAPABILITY

The principal effort in the period 13 April to 30 June 1959 will be to establish the principles and designs for a photographic reconnaissance system which provides the vehicle with maximum capability. Three efforts are involved: (1) company engineering; (2) liaison; and (3) consulting.

Company engineering activity: (1) Analyses of several systems, resulting in the selection of the system which will provide maximum capability; (2) laboratory experimentation on windows (coating of various types of glass to develop a configuration for a window suitable for a high speed vehicle) and space modulation of aerial photographic images (spectra analysis with microdensitometer and G.R. Analyzer) to provide basic design data; (3) system designs to assure practical solutions to all problems; (4) reports; and (5) participation in liaison and consulting.

Liaison activity: (1) With vehicle manufacturer to assure compatability and maximum capability; and (2) with various film manufacturers to assure selection of the best film.

Consulting activity: (1) With a lens designer outside the company to gain possible new ideas; and (2) with Robinson Technical Products to assure a completely integrated vibration isolation system.

PRODUCTION PROGRAM

A program for the twelve month production period and the three month testing period will be detailed when the design is nearly completed.

PERSONNEL ASSIGNMENTS

The specific personnel required to appropriately staff the production program will be assigned. Many of these personnel will be drawn from the group assigned to work on this immediate program, but additional personnel

with a greater orientation to production will be required. The theoretically oriented members of this initial study and design group will outline and conduct tests during the production period, but will largely be removed from the day-to-day production activity.

COST ESTIMATE

The cost estimate of the twelve month production program will be prepared.

IV. PROGRAM OUTLINE

The Project Plan will be accomplished in accordance with the schedule of activity and personnel assignment (see figure 4). Initially the activity will be located in our existing C-room, and, by 1 June 1959, a larger secure area will be prepared.

The personnel organization for this program requires immediate project clearance for certain people (see figure 5): The project director, contract administrator, project engineer, project development engineer, and project administrator for overall problems; and the engineer working on windows, the electronic engineer, one servomechanism and stabilization engineer, and the senior designer to permit liaison with the vehicle manufacturer.

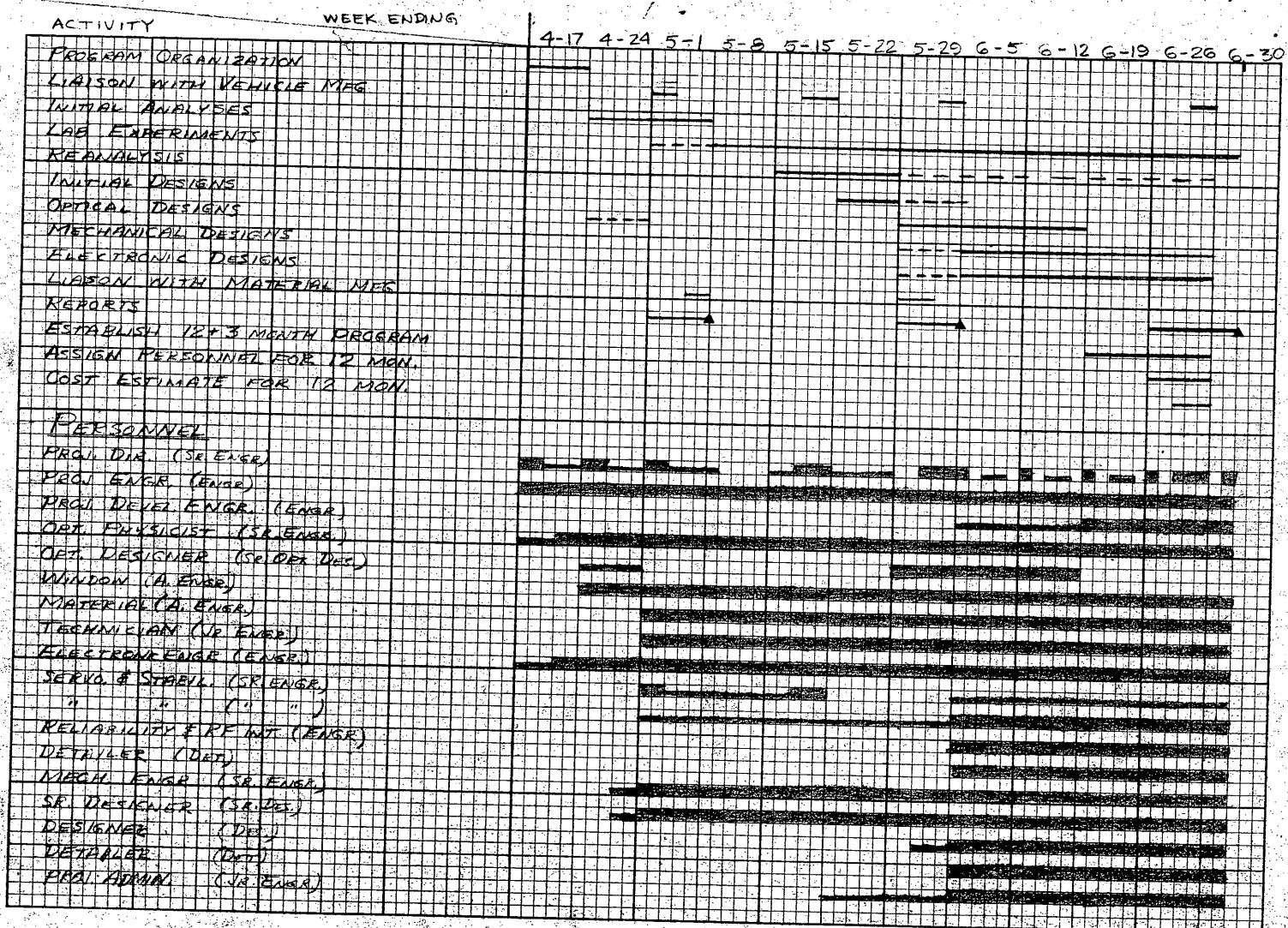


FIGURE 4: Activity Chart

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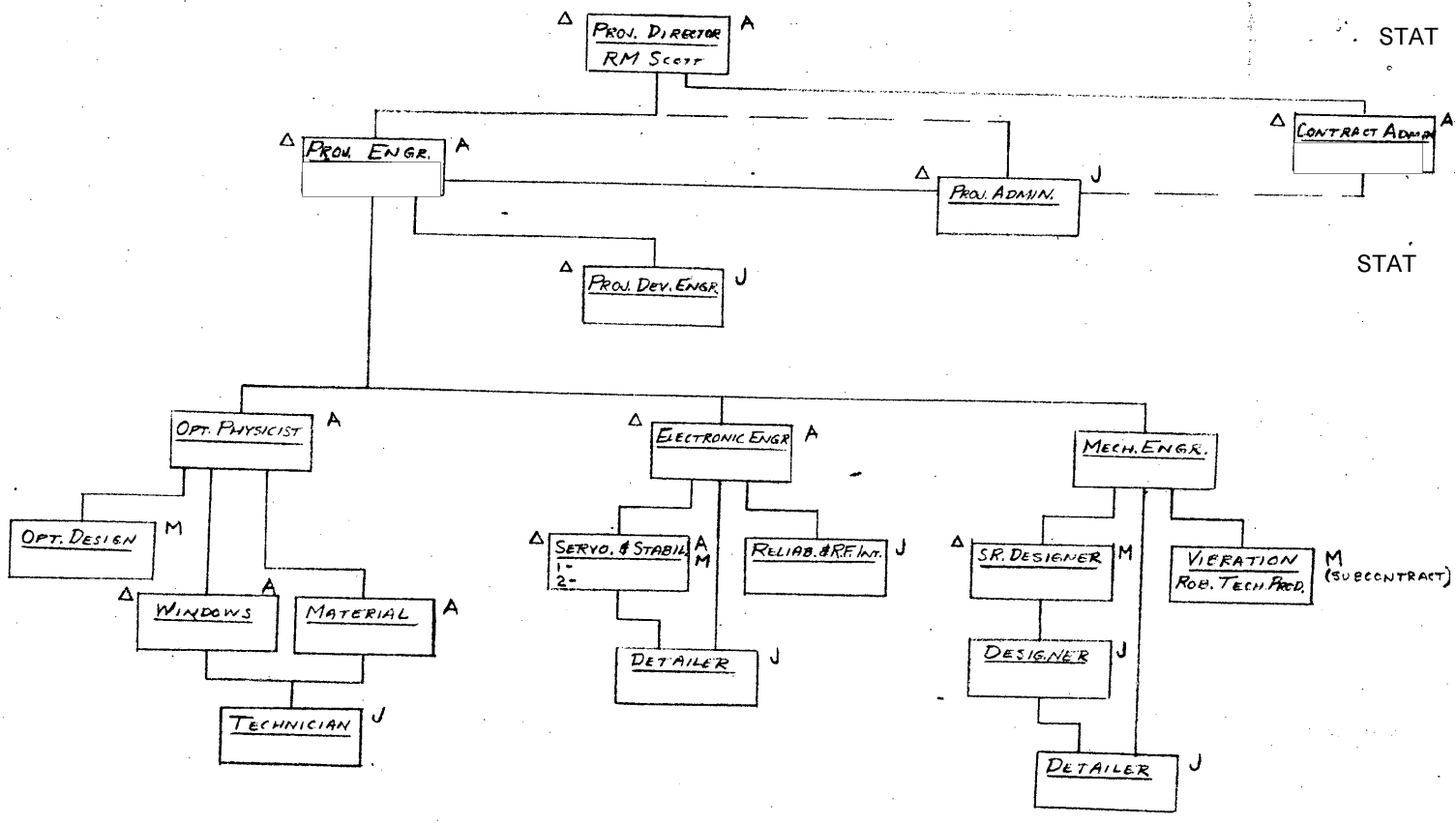

Δ REQUIRE [ ] SECURITY CLEARANCE
A START TO WORK IN APRIL
M " " " " MAY
J " " " " JUNE

FIGURE 5: Personnel Organization

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